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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,960	06/12/2001	Johann Engelhardt	LASP:111-US-	2526

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EXAMINER

STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 09/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/857,960

Applicant(s)

ENGELHARDT, JOHANN

Examiner

Gordon J Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-54 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 32-54 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) Z.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Applicant is advised that should **claim 48** be found allowable, **claim 49** will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).
2. **Claim 42** is objected to for being improperly dependent on a cancelled claim. Examiner interprets this claim as depending from claim 33. Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 50-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for **claims 50-52**, the term, "detection image," is indefinite, for it is unclear as to what this additional image is in relation to the transmitted light microscopic and reflected light microscopic images. Clarification is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. **Claims 32, 36-38, 43-45, 47-51, 53 and 54** are rejected under 35 U.S.C. 102(a) as being anticipated by **Schultz et al. (6,180,415)**.

As for **claim 32**, Schultz in a plasmon resonant method discloses: assigning particles with specific diameters and specific characteristics and detecting said structures by detecting said particles specifically bound in or on said structures using light that acts on said particles (cols. 3; lines 1-35; col. 4, lines 1-30; col. 5, lines 45-65; col. 8, lines 1-30; col. 9, lines 25-45). As for constant characteristics independent of time, Schultz discloses spectral many constant characteristics of the particle (col. 9, lines 45-65).

As for **claim 36**, Schultz discloses areas of preparation to be differentiated are provided with particles of various diameters, so that said areas to be differentiated are detected simultaneously or successively by means of suitable light of various wavelengths (col. 19, lines 25-55).

As for **claims 37-38**, the particles are metallic and maybe ellipsoidal (col. 10, lines 11-25; col. 9, lines 65-67).

As for **claims 43-45, 47-49** said light is produced using a high pressure lamp; means for wavelength selection and polarization; laser as light source; means for selecting wavelengths connected in series or integrable filters (col. 3, lines 1-20; col. 13, lines 40-50; col. 25-40; col. 17, lines 1-25).

As for **claim 50, 51, 53** Schultz records a reflected light image using microscope and evaluates record images using digital image processing (col. 17, lines 25-65; col. 18, lines 1-55); also a transmitted light microscopic image is recorded from a total internal reflection mode (col.

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21, lines 45-65; col. 22, lines 1-55) and recording a plurality of images under various lighting and detection angles (col. 13, lines 40-50; col. 15, lines 50-55).

As for **claim 54**, said particles are coated on a surface (col. 14, lines 49-65).

6. **Claims 32, 37, 38, 43, 50, 51** are rejected under 35 U.S.C. 102(a) as being anticipated by **Yguerabide et al. (6,214,560)**.

As for **claims 32, 37, 38, 43, 50, 51**, Yguerabide discloses the following: assigning particles with a specific diameter and specific characteristics to said structures; detecting said structures by detecting said particles specifically bound in or on said structures of said preparation using light that acts on said particles; wherein said particles are metallic particles and are ellipsoidal, nonspherical; light source using a high pressure lamp; recording a transmitted light transmitted image and evaluating image; recording reflected light microscope image and evaluating it (col. 60, lines 15-20; col. 9, lines 50-67; cols. 10-13; cols. 19-24).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Schultz et al. (6,180,415)**.

As for **claim 34**, Schultz discloses everything as above (see claim 32). However, he is silent concerning selecting a wavelength of suitable light as a function of said diameter and

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characteristics of particles. However, he does teach the plasmon signal occurring on said particles (col. 9, lines 18-45). However, he does state that the wavelengths are dependent on size and characteristics of particles (col. 9, lines 46-60). Therefore, it would be obvious to one skilled in the art at the time the invention was made to have the wavelength of light be set as a function of said diameter and said specific characteristics in order to detect the specific plasmon signals of the particle under detection.

9. **Claims 33, 35, 39-42** rejected under 35 U.S.C. 103(a) as being unpatentable over **Yguerabide et al. (6,214,560)**.

As for **claims 33, 35, 39-42**, Yguerabide discloses the following: that a wavelength depends on the size and characteristics of the particles and that the particles will be detected through Mie scattering; wavelength of said light is larger than or approximate to size of particles; particles are detected through transmission mode; through a polarization transmission microscope; through reflection microscope; through polarization reflection microscope (col. 9, lines 50-67; cols. 10-13; cols. 19-24). However, he is silent concerning the selection of the wavelength from the size or characteristics. It would be obvious to one skilled in the art to have the wavelengths selected at a function of said diameter and characteristics of particles in question in order to detect particular Mie signals dependent upon the size and characteristics of a particle at a particular wavelength.

9. **Claim 46** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Yguerabide et al. (6,214,560)** in view of **Kaiser (4,169,676)**.

As to **claim 46** Yguerabide discloses everything as above (see claim 32). In addition, he discloses measuring all scattering signals such as from Mie-signals (col. 22, lines 1-30). He is

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silent concerning a parametric oscillator. However, Kaiser in a method for determining contents of metabolic products in blood teaches that parametric oscillators may be used in place of adjustable lasers (col. 3, lines 1-6). Therefore, it would be obvious to one skilled in the art to have a parametric oscillator replace an adjustable laser, for they are art recognized equivalents in wavelength adjustable light sources.

Allowable Subject Matter

10. **Claim 52** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

As to **claim 52**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for differentiated examination of various structures in a biological preparation recording a conventional transmitted light microscopic image and a conventional reflected light microscopic image, in combination with the rest of the limitations of **claim 52**.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent 5,599,668 to Stimpson et al.

WO 98/04740 to Mirkin et al.

WO 98/10289 to Natan et al.

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Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 308-7722

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (703) 305-4787.

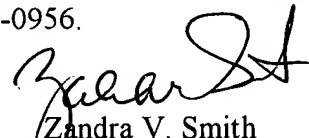
The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

DD

gs

August 25, 2003



Zandra V. Smith
Primary Examiner
Art Unit 2877